

GEOLOGIC MAP OF THE McCORNICK QUADRANGLE, MILLARD COUNTY, UTAH

by Fitzhugh D. Davis 1994

## **DESCRIPTION OF MAP UNITS**



Alluvial-fan deposits - Poorly sorted coarse- to fine-grained alluvium of Whisky Creek and an unnamed stream north of Whisky Creek. The alluvium is largely flood deposits of silt, fine sand, and clasts of quartzite and limestone. The unnamed creek has deposited a small alluvial fan at the Provo shoreline. These deposits are 1 to 5 feet (0.3 - 1.5 m) thick.



Eolian dunes - Active and morphologically well-developed sand dune fields. Barchanoid ridges, barchans, and transverse dunes are common where the sand supply is abundant. The dunes consist of tan, silty, fine sand that is not stabilized by vegetation. The sand is well sorted and about 80 percent clear to white, mostly frosted quartz grains. The remaining 20 percent consists of feldspar, calcite, pyroxene, and magnetite grains as well as red and green quartz. The dunes range from 3 to 32 feet (0.9 - 9.8 m) high.

Qes.

Eolian sand - Windblown sand in sheets, irregular mounds, shrub-coppice dunes, and narrow northeast-trending ridges that are stabilized by vegetation. These landforms are 1 to 8 feet (0.3 - 2.4 m) high. The sand size and composition is the same as for Qed. The black volcanic ash content of the sand increases westward

in the quadrangle, and adjacent to the basalt outcrops it is largely black, sand-

sized ash.

Eolian mud - Light-gray, non-stratified, calcareous, windblown mud that forms barchan dunes and irregularly shaped lunettes that are 4 to 10 feet (1.2 - 3 m) high in the playa area in the northwestern part of the quadrangle. The mud is a windblown dust from adjacent playas that contains abundant, minute, white and clear gypsum and calcite concretions.

**Qpm** 

Qem

Playa mud - Laminated, light-gray, very calcareous and gypsiferous clay, silt, and fine sand. Silt laminations are predominant. Some playas have a thin white or tannish-white alkali crust. The playa mud is probably 5 to 10 feet (1.5 - 3 m) thick.

Qsm

Marsh deposits associated with springs - *Gray to black organic mud in marshy areas.* Probably 2 to 5 feet (0.6 - 1.5 m) thick.

Qla

from a tan sandy silt to a tan silty and gravelly fine sand. Holocene alluvium covers the lacustrine deposits in some places. Exposures range from 1 to 4 feet (0.3 - 1.2 m) thick.

Lacustrine sand - Tan, pebbly, fine- to coarse-grained sand that forms the Provo shoreline beach ridge in the southeast part of the quadrangle. The sand is poorly cemented by CaCO<sub>3</sub>. The shoreline ridge is 2 to 4 feet (0.6 - 1.2 m) thick. Lacustrine marl - Fine-grained, thinly bedded to indistinctly laminated, white to light-

Qlm

2 inches (5 cm) to 4.25 feet (1.3 m). Fine-grained lacustrine sediments - Grayish-tan, tan, and light-gray calcareous silts are the main deep-water sediments of Lake Bonneville. This unit also includes

Qlf

reworked lacustrine marl and other sediments that were washed downslope during the regressive phase of Lake Bonneville. There are no vertical exposures, but the thickness is probably 10 feet (3 m) or less. Basalt - Alkali olivine basalt that is vesicular and weathers dark-brown to black; a

Qb

fresh surface is medium gray. The basalt is about 70 percent plagioclase, 4 to 6 percent olivine, less than 4 percent augite, and the remainder is groundmass and vugs. Exposures range to 35 feet (10.7 m) high. Lacustrine gravel - Reworked rocks of the Oak City Formation (upper Miocene and Pliocene) that consist of subangular to subrounded pebbles and cobbles of

Qlg

quartzite and limestone with an exposed thickness of 8 feet (2.4 m). The upper part of the gravel deposit has a stage IV calcium carbonate morphology. Pleistocene and Pliocene lacustrine limestone and sandstone - Light-gray sandy

limestone interbedded with light-gray, very calcareous, fine-grained sandstone. All beds are laminated to thin bedded and comprise the nearshore facies of a Plio-

QTIn

Pleistocene lake. The unit is probably 20 to 30 feet (6 - 9 m) thick. Oak City Formation - Unconsolidated deposits of angular cobbles and boulders of purple, pink, and white quartzite, and gray limestone. Ranges from 140 to 340+feet (42.7 - 103+ m) thick.

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Flagstaff Formation - Not exposed in quadrangle; shown on cross section only; lightgray sparry limestone, 11 feet (3.4 m) thick, possibly an erosional remnant.

North Horn Formation - Shown on cross section only; about 449 feet (137 m) of tan,

TKn

sandy limestone in upper part of unit; most of remainder is interbedded red, fine- to medium-grained sandstone and gray limestone except for a 70-foot (21 m ) thick conglomerate sequence the base of which is 280 feet (85 m) above the base of the formation; total thickness is 1,599 (487 m) feet.

SI

Laketown Dolomite - Shown on cross section only; medium-light-gray to medium-dark-gray, medium-grained thick-bedded to massive dolomite; about 1,100 feet (335 m) thick in the Pavant thrust plate. Fish Haven Dolomite - Shown only on cross section; the upper 120 feet (37 m) is light to dark gray, coarsely crystalline dolomite; the lower 70 feet (21 m) is interbedded

Ofh

Eureka Quartzite - Shown only on cross section; white, medium-grained quartzite; 60 feet (18 m) thick.

gray dolomite and white quartzite; total thickness is 190 feet (58 m).

Oe

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Pogonip Group - Shown only on cross section; the upper 1,230 feet (375 m) consists of mottled, light- to dark-gray, coarsely crystalline dolomite with calcite fracture fillings; the lower 260 feet (79 m) is light- to dark-gray limestone with fossil hash; total thickness is 1,490 feet (454 m).

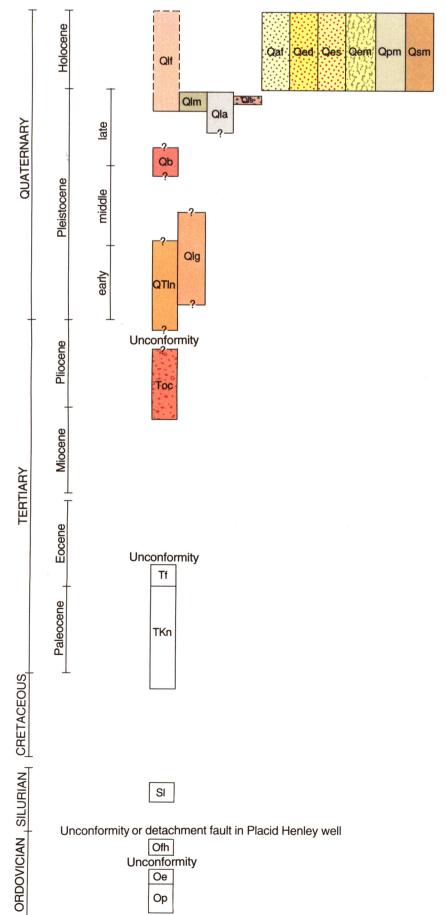
## MAP SYMBOLS

Contact - Dashed where approximately located; dotted where obscured. Concealed fault -Queried where location is uncertain; bar and ball on downthrown

Provo shoreline of Lake Bonneville - dashed where inferred; dotted where buried.

Gravel pit

## CORRELATION OF MAP UNITS



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